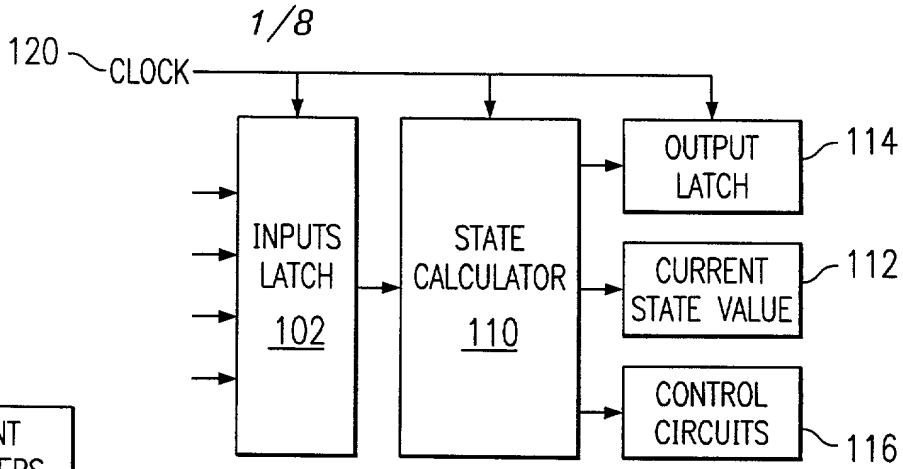


FIG. 1

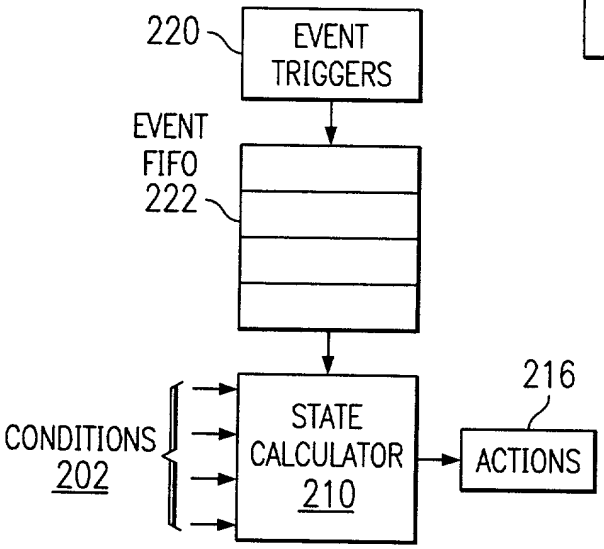


FIG. 2

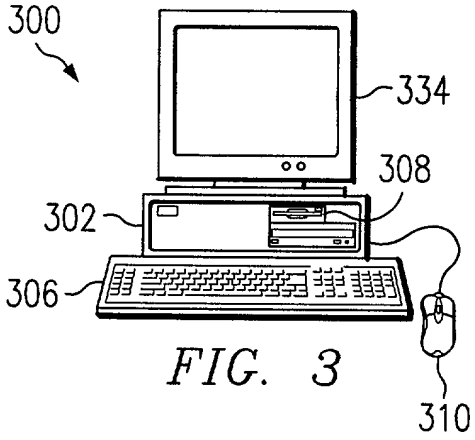


FIG. 3

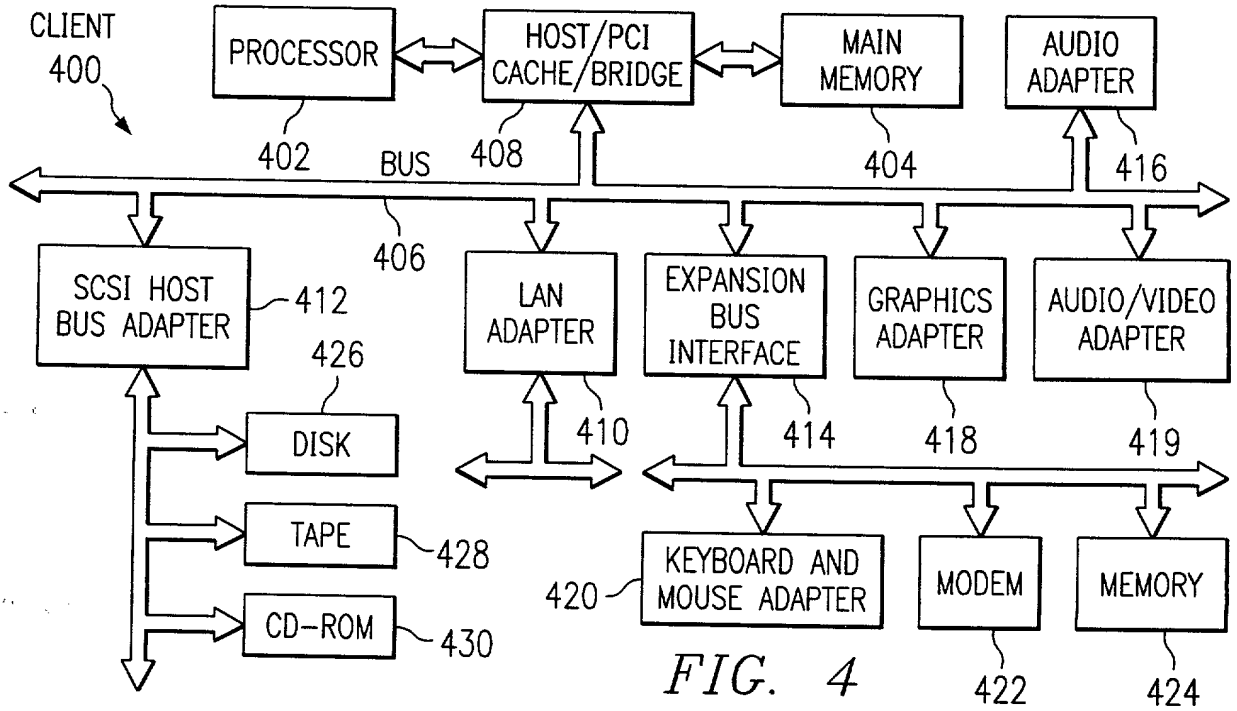


FIG. 4

STATES	
ID	DESCRIPTION
S1	NEW
S2	STARTING
S3	RUNNING
S4	PAUSED
S5	STOPPING
S6	STOPPED
S7	ERROR

510

ACTIONS	
ID	DESCRIPTION
A1	START EMBEDDED TASK
A2	STOP EMBEDDED TASK
A3	PAUSE TRACE SUBSYSTEM
A4	RESUME TRACE SUBSYSTEM

520

INPUTS	
ID	DESCRIPTION
TSV	EMBEDDED TASK STATE VARIABLE {"NEW","STARTING","RUNNING","STOPPING","STOPPED","ERROR"}
CSV	EMBEDDED COMMAND STATE VARIABLE {"NO-OP","START","STOP","PAUSE","RESUME"}

530

CONDITIONS		
ID	CSV VALUE	TSV VALUE
C1	NO-OP	NEW
C2	START	NEW OR STARTING
C3	START	RUNNING
C4	STOP	NEW
C5	--	ERROR
C6	STOP	STARTING OR RUNNING
C7	--	STOPPED
C8	RESUME	RUNNING
C9	STOP	RUNNING
C10	PAUSE	RUNNING
C11	--	STOPPING

560

EVENTS	
ID	DESCRIPTION
E1	STATE CHANGED EVENT

540

TRIGGERS	
ID	DESCRIPTION
T1	STATE CHANGED EVENT
T2	NEW COMMAND WRITTEN

570

FIG. 5A

550

FIG. 5B

STATE TABLE							
CURRENT STATE/NEXT STATE	S1	S2	S3	S4	S5	S6	S7
S1	C1 -- --	C2 A1 E1	C3 -- E1	X	X	C4 -- E1	C5 -- E1
S2	X	C2 -- --	C3 A4 E1	X	C6 A2, A3 E1	C7 -- E1	C5 -- E1
S3	X	X	C3 C8 -- -- -- --	C10 A3 E1	C9 A2, A3 E1	C7 A3 E1	C5 A3 E1
S4	X	X	C8 A4 E1	C10 -- --	C9 A2, A3 E1	C7 A3 E1	C5 A3 E1
S5	X	X	X	X	C11 -- --	C7 -- E1	C5 -- E1
S6	X	X	X	X	X	C7 -- --	X
S7	X	X	X	X	X	X	C5 -- --

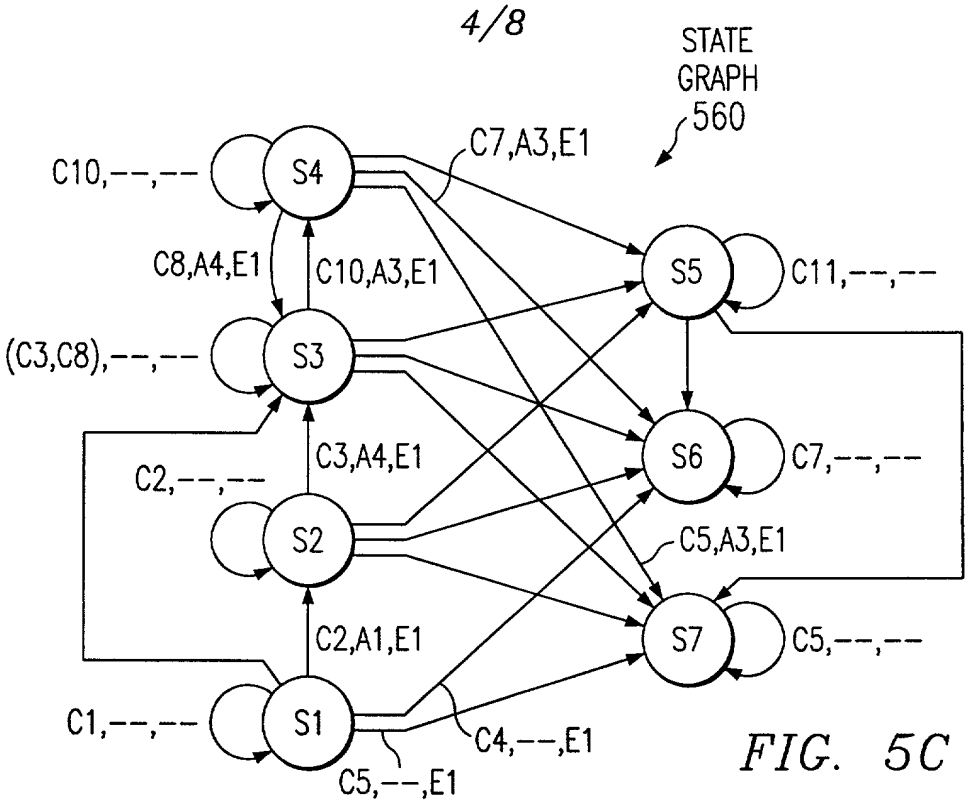

STATE
GRAPH
560
S1
S2
S3
S4
S5
S6
S7
C10,--,--
C7,A3,E1
C8,A4,E1
C10,A3,E1
C11,--,--
(C3,C8),--,--
C3,A4,E1
C2,--,--
C7,--,--
C5,A3,E1
C2,A1,E1
C5,--,--
C1,--,--
C4,--,E1
C5,--,E1

FIG. 5C

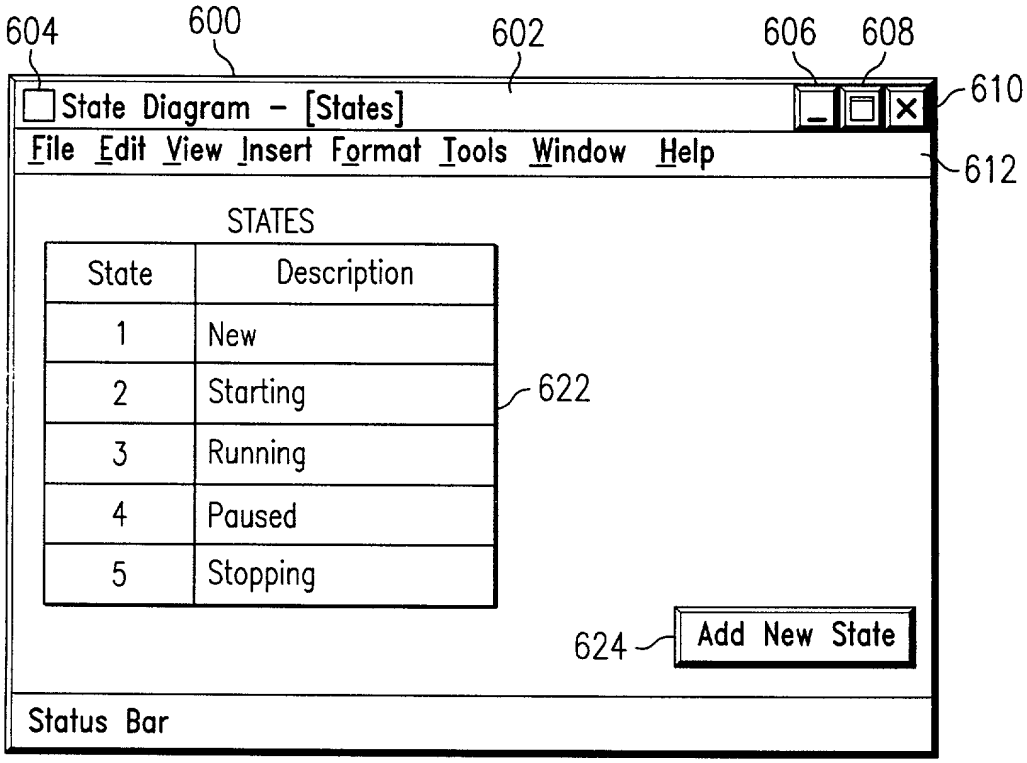

604
600
602
606
608
610
State Diagram - [States]
File Edit View Insert Format Tools Window Help
612
STATES
State
Description
1
New
2
Starting
3
Running
4
Paused
5
Stopping
622
624
Add New State
Status Bar

FIG. 6A

FIG. 6B

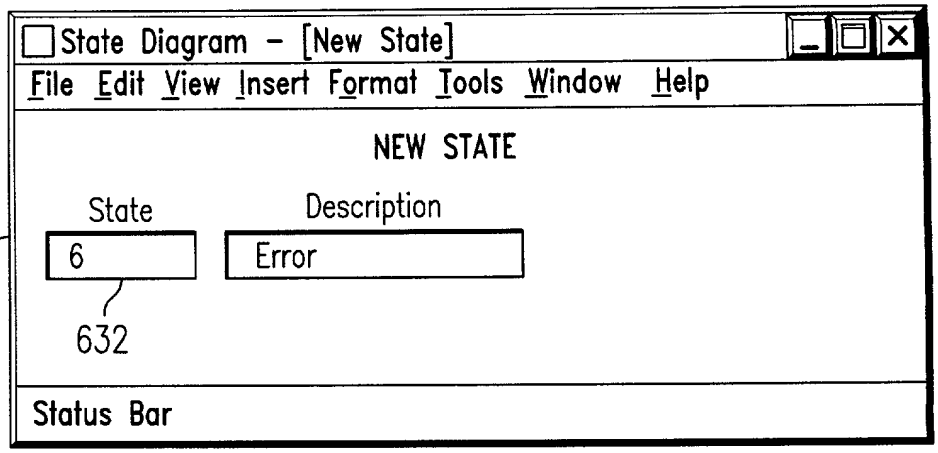


FIG. 6C

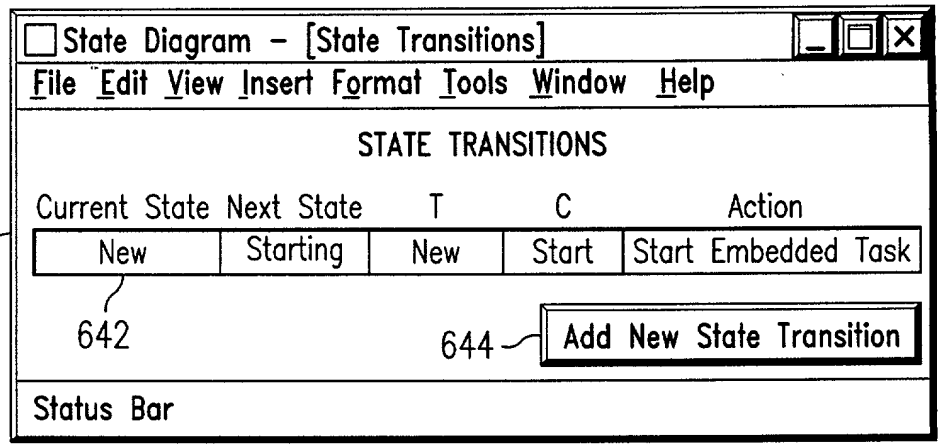
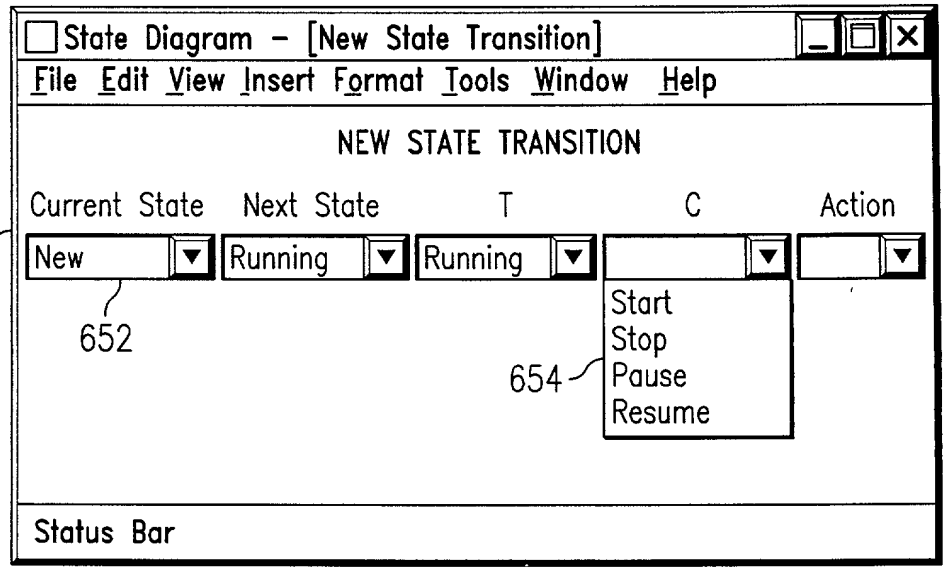


FIG. 6D



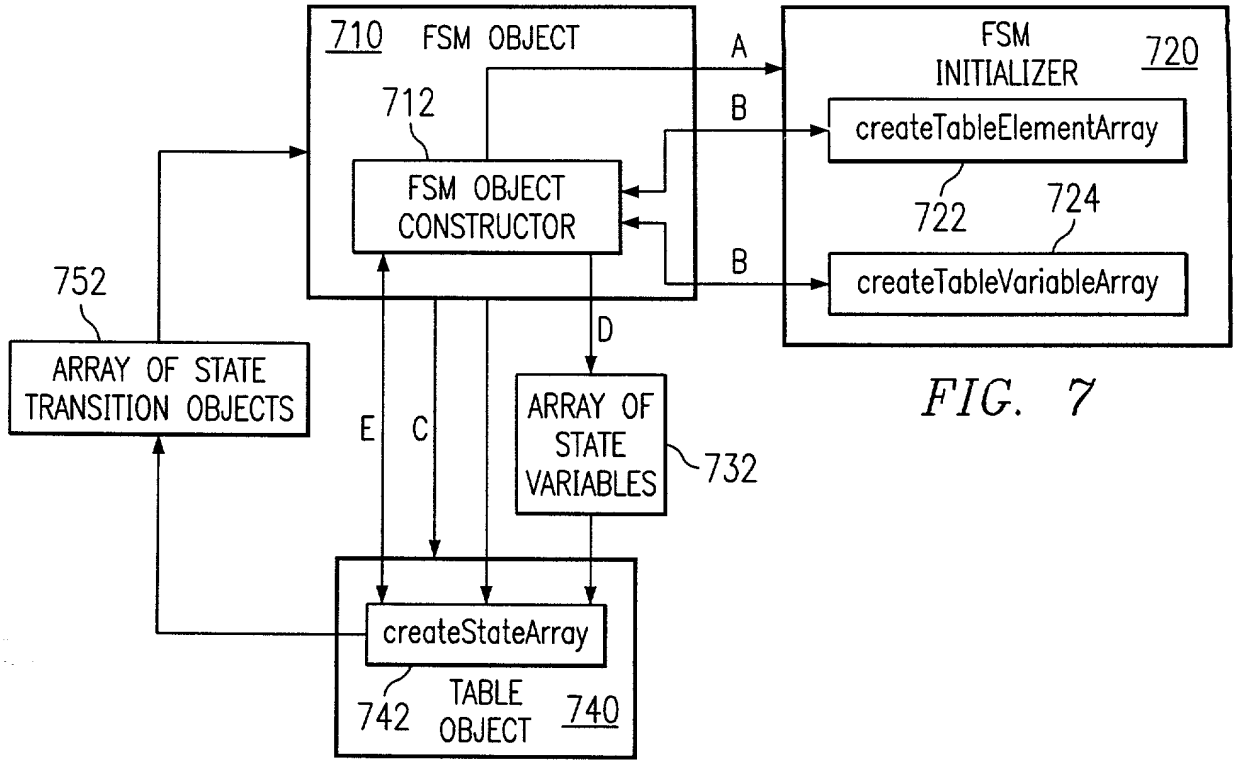

710 FSM OBJECT
712
FSM OBJECT CONSTRUCTOR
A
B
B
D
E
C
FSM INITIALIZER 720
createTableElementArray
722
724
createTableVariableArray
752
ARRAY OF STATE TRANSITION OBJECTS
ARRAY OF STATE VARIABLES
732
createStateArray
742
TABLE OBJECT 740

FIG. 7

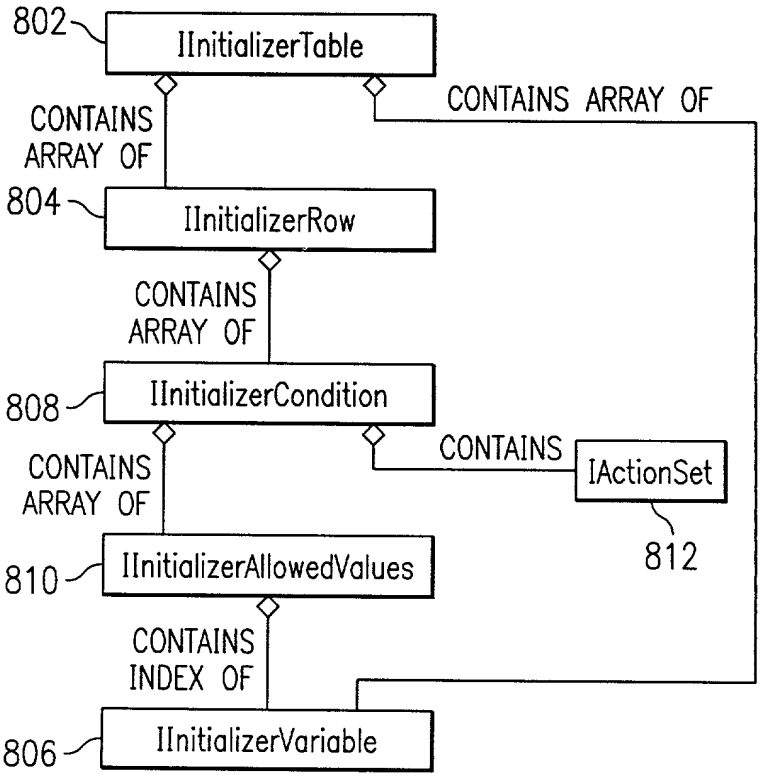

802
IInitializerTable
CONTAINS ARRAY OF
CONTAINS ARRAY OF
804
IInitializerRow
CONTAINS ARRAY OF
808
IInitializerCondition
CONTAINS
IActionSet
812
CONTAINS ARRAY OF
810
IInitializerAllowedValues
CONTAINS INDEX OF
806
IInitializerVariable

FIG. 8A

FIG. 8B

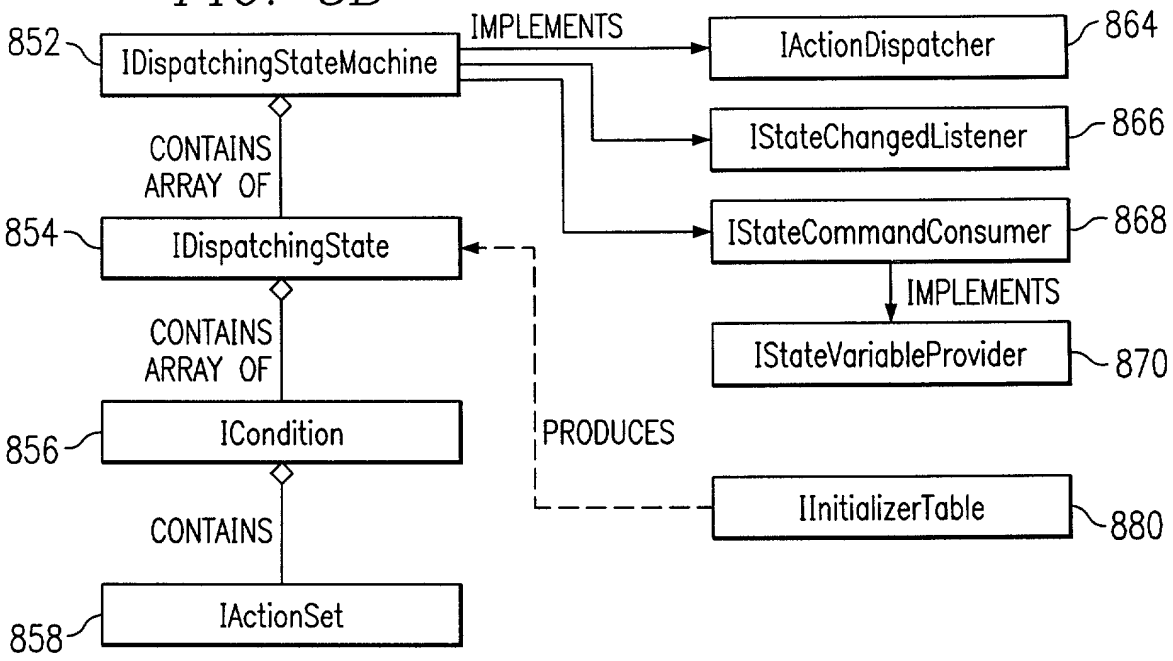

852
IDispatchingStateMachine
IMPLEMENTS
IActionDispatcher
864
IStateChangedListener
866
IStateCommandConsumer
868
IMPLEMENTS
IStateVariableProvider
870
CONTAINS ARRAY OF
854
IDispatchingState
CONTAINS ARRAY OF
856
ICondition
PRODUCES
IInitializerTable
880
CONTAINS
858
IActionSet

FIG. 9

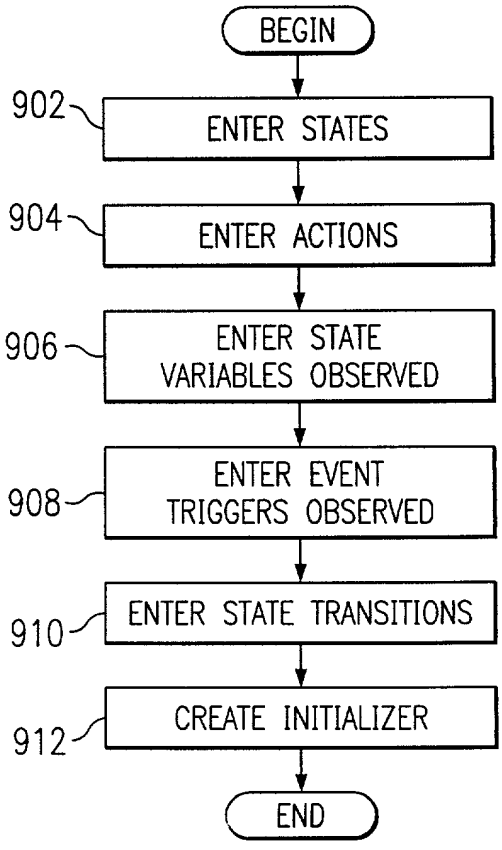
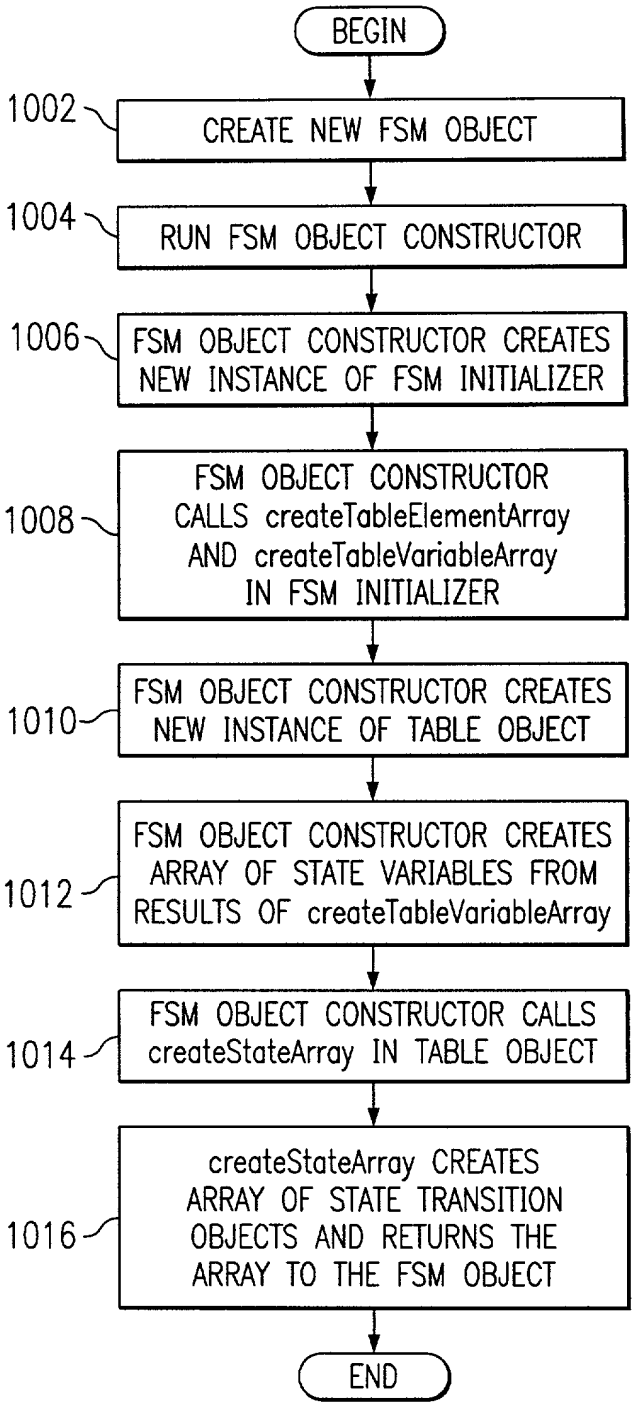

BEGIN
902
ENTER STATES
904
ENTER ACTIONS
906
ENTER STATE VARIABLES OBSERVED
908
ENTER EVENT TRIGGERS OBSERVED
910
ENTER STATE TRANSITIONS
912
CREATE INITIALIZER
END

FIG. 10


BEGIN
1002
CREATE NEW FSM OBJECT
1004
RUN FSM OBJECT CONSTRUCTOR
1006
FSM OBJECT CONSTRUCTOR CREATES NEW INSTANCE OF FSM INITIALIZER
1008
FSM OBJECT CONSTRUCTOR CALLS createTableElementArray AND createTableVariableArray IN FSM INITIALIZER
1010
FSM OBJECT CONSTRUCTOR CREATES NEW INSTANCE OF TABLE OBJECT
1012
FSM OBJECT CONSTRUCTOR CREATES ARRAY OF STATE VARIABLES FROM RESULTS OF createTableVariableArray
1014
FSM OBJECT CONSTRUCTOR CALLS createStateArray IN TABLE OBJECT
1016
createStateArray CREATES ARRAY OF STATE TRANSITION OBJECTS AND RETURNS THE ARRAY TO THE FSM OBJECT
END